

and only a small percentage of patients (23.7%) was first treated by mental health specialists. **CONCLUSIONS:** The reported cost of managing MDD in China was high. Most patients first seek treatment in general medical clinics or hospitals instead of mental health specialists.

PMH21

COMPARATIVE PHARMACOECONOMICS STUDIES OF TREATMENT FOR MAJOR DEPRESSIVE DISORDER IN CHINA

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OBJECTIVES: Various pharmacotherapy options are available for major depressive disorder (MDD) in China. However, the cost-effectiveness (CE) evaluations for these treatments are not systematically reported in English literature. A structured literature review was conducted to identify the health economics data of available treatment options in China. **METHODS:** A structured literature review on published articles in both English and Mandarin languages was conducted. Literature search was conducted using PubMed, Cochrane, WAN FANG, and VIP databases. Articles published between 2000 and 2013 were selected. The inclusion criteria included studies on Chinese population based in China only, as well as studies that reported cost effectiveness ratio (CER) or incremental cost effectiveness ratio (ICER) of MDD pharmacotherapy. Four reviewers (two for each language) independently selected, reviewed and extracted information from the articles. **RESULTS:** 17 English & 63 Mandarin articles were identified. None of the English articles and 23 Mandarin articles fulfilled the inclusion criteria. 17 of the 23 Mandarin articles analysed the CER or ICER of the serotonin norepinephrine reuptake inhibitor (SNRI), Venlafaxine compared with other anti-depressants such as selective serotonin reuptake inhibitor (SSRI), tricyclic (TCA) or tetracyclic (TeCA) antidepressants. The remaining 6 articles analysed the CE of other anti-depressants not involving SNRI. The review showed conflicting outcomes due to heterogeneous study methodology. Ten out of 23 articles reported TCA/TeCA treatment to be most cost-effective treatment whereas six articles were in favour of SSRI and four articles favoured SNRI. **CONCLUSIONS:** TCA/TeCA had comparable effectiveness compared to SNRI or SSRI. Despite the lower treatment cost with TCA/TeCA use, these treatments had higher AE rates compared to SNRI or SSRI, which were not taken into account during cost evaluation. This review identified several methodological issues and despite the calculation of ICER or CER, further studies are required to compare evidence on cost-effective anti-depressant treatment.

PMH22

ECONOMIC EVALUATION OF ALZHEIMER

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OBJECTIVES: The Alzheimer diseases (AD) steadily increase with age in the early population. Considering that all over the world holds the fastest aging population. According to the Alzheimer's Association, cost spending is projected to be \$2000 billion in 2050. The purpose of this study is to observe the cost effectiveness analysis (CEA) for the Alzheimer drug. **METHODS:** The report was reviewed through report of ministry of welfare in Korea and clinical report data of paper about the Alzheimer drug inhibitors which are Aricept, Exelon and Reminyl. This analysis was used by CEA. **RESULTS:** In Korea, the patients increased 84,000 in 2005 and 262,000 in 2010. The patients increase 3.1 fold more increase. The total medical expenses \$0.13 billion in 2005 and \$0.81 billion in 2010. The total medical expense was 6.1 more increase. The per capita cost of treatment of Alzheimer diseases (AD) spends about 1.5\$ in 2005 and 3.1\$ in 2010. The per capita cost of treatment is 2 times greater. Also, The medical fee of Aricept is \$2, Exelon is \$1.8 and Reminyl \$1.3 in Korea. The best drug of cost effectiveness is Reminyl and then Aricept. However, Exelon rejected within the cost effectiveness analysis, when anyone has a limited cost. **CONCLUSIONS:** This revision strived to reduce the per capita cost of treatment of AD. Most of all, it is critical not to delay care in Alzheimer patients in order to avoid increased direct medical costs. Therefore, in Alzheimer care, it is most critical to adequately check the symptom early discovery through the appropriate management techniques.

PMH23

FUTURE IMPACT OF DEMENTIA ON THE CAREGIVER IN CHINA

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OBJECTIVES: Elderly dementia results in progressive cognitive impairment and, eventually, the inability to living independently. The objective of this study was to assess the time required to provide care to patients with dementia according to their health state, and the consequences for the active population in China in 2050. **METHODS:** The Chinese demographic forecasts for 2050 were put in balance with the need of estimated caregiving time needed by the dementia population. Demographic data, proportions of diagnosed and/or treated patients were provided by the China Alzheimer's project Memory360. A Markov model was developed to estimate the average caregiver's time needed per patient per day over 5 years, separately for treated and not treated patients. **RESULTS:** The proportion of economically active population aged between 15 and 59 in China in 2050 is estimated at 50% compared to the currently observed 70%. There will be approximately two workers for one elderly. It was found that untreated patient will require around 9.3 hours per day compared to 6.7 hours per day required by a treated patient. It was estimated that there will be 21.6 million patients with dementia in China with only 21.3% among them receiving treatment. More than 188 million hours per day will be needed to take care of Chinese dementia patients for around 690 million working people. **CONCLUSIONS:** In the future, the situation in China will be dramatic due to the increase in the proportion of elderly and simultaneous reduction by around one fourth of the proportion of adults younger than 60. It was estimated that in average

more than one worker over four will spend one hour per day providing care to a patient with dementia. Increasing the proportion of treated patients may be a way to control costs and reduce burden on the society.

MENTAL HEALTH – Patient-Reported Outcomes & Patient Preference Studies

PMH25

PREDICTORS OF ADHERENCE TO ANTIDEPRESSANT MEDICATIONS IN SAUDI ARABIA

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OBJECTIVES: The aim of this study was to explore patients' adherence to antidepressant medication and predictors are associated with adherence, among patients diagnosed with depression in a psychiatric hospital in Riyadh, Saudi Arabia. **METHODS:** Non experimental cross-sectional design used to measure adherence to antidepressants among depressed patients and predictors are associated with adherence, patients were recruit from outpatient clinic at AL-Amal hospital in Riyadh (psychiatric hospital) between August 2013 and January 2014. **RESULTS:** A total of 403 patients meet the inclusion criteria and were participated in this study. Two hundred three representing 50.37 % of the total study sample, were female, while the remaining 200 (49.6 %) were male, with average 39 years. 52.9% of the patients report low adherence to antidepressant medication with a statically significant different between low adherence and high adherence scour in female gender, younger age, patients with shorter duration of illness and have lees number of visit to outpatient clinic. **CONCLUSIONS:** Low adherence is a common health problem among depressed patients in Saudi Arabia, this study has improve understanding of adherence predictors to antidepressant and their association, this understanding should help care giver and stakeholder to improve depressed patient management and clinical outcome by addressing medications taking behavior using a systematic approach based in this finding.

PMH26

GENERAL BELIEFS ABOUT MEDICINES AMONG DEPRESSED PATIENTS IN SAUDI ARABIA

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OBJECTIVES: The aim of this study was to explore patients' general and specific beliefs about medicines among depressed patients and effect on adherence and other clinical outcome in Saudi Arabia. **METHODS:** A cross-sectional design used to measure patients' general and specific beliefs among depressed patients, using BMQ general and specific scales. Patients were recruit from outpatient clinic at AL-Amal hospital in Riyadh (psychiatric hospital). **RESULTS:** A total of 403 patients meet the inclusion criteria and were participated in this study. Two hundred three representing 50.37 % of the total study sample, were female, while the remaining 200 (49.6 %) were male, with average 39 years. 52.9% of patients report low adherence to antidepressant medication. Both low and high adherence group scored high in the necessity beliefs (18.02 (SD 3.91)-18.32 (SD3.9) respectively with no statistically different. Contrariwise patients with high adherence had significantly lower level of concerns belief about antidepressants medication and less harmful belief also the same finding with general overuse belief. **CONCLUSIONS:** General patients beliefs either general overuse or general harm about medication influence patients taking medication behavior and have negative correlation with adherence to medication on other hand only specific concerns belief to antidepressant have a positive correlation with adherence to antidepressant this finding will help psychiatric to improve adherence and clinical outcome by addressing medications taking behavior using a systematic approach based in this finding.

PMH27

EXAMINING OPIOID-DEPENDENT CHRONIC PAIN PATIENTS EXPERIENCES ON BUPRENORPHINE MAINTENANCE THERAPY IN THE TEXAS WORKERS COMPENSATION SYSTEM: PILOT STUDY - PART 2

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OBJECTIVES: The objective of this pilot study was to examine opioid analgesic (OA) use and patient reported outcomes (PRO) among opioid-dependent chronic nonmalignant pain (CNMP) patients placed on buprenorphine therapy in the Functional Restoration and Pain Management (FRPM) program. **METHODS:** A retrospective cohort analysis of administrative claims, medical records and responses to PRO questionnaires was conducted among Texas Workers Compensation (TWC) beneficiaries enrolled in the FRPM program. Prescription utilization patterns, pain severity and self-report PROs were assessed during a 3-month observation period. PRO measures included the Visual Analogue Scale (VAS) for pain assessment, McGill Pain Questionnaire (MPQ), Beck Anxiety Inventory (BAI), and Beck Depression Inventory-II (BDI-II). Eligible patients were ≥18 years of age, opioid dependent, had a history of chronic pain medications, receiving buprenorphine therapy, and continuously enrolled in TWC benefit during the 3-month period. **RESULTS:** The mean age of eligible study participants (N=19) was 49.0 years ±7.6. A majority of patients were male (58%), white (63%), had a depression comorbidity (79%) and chronic pain lumbar diagnosis (47%). Overall, patients enrolled in the study showed a significant reduction in OA medication utilization (p<0.01) at months 1 and 2-3 compared to baseline. For the PRO measures, a significant reduction in patient VAS pain scores was observed between baseline and month 1 (p=0.03), no increases in pain scores were observed at months 2-3. Significant decreases in MPQ-A (p<0.04) and BDI-II (p<0.01) scores were observed between baseline and months 1 and 2-3. No differences for BAI scores were observed. **CONCLUSIONS:** Though a pilot study, the results suggest that opioid dependent patients receiving buprenorphine therapy in the FRPM program has the potential of improving health outcomes of patients with

chronic pain, while reducing their use of controlled medications. A larger follow-up study is needed to validate and expand on these preliminary findings.

PMH29

IMPORTANCE OF REMISSION IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER IN KOREA FOR IMPROVING HEALTH-RELATED QUALITY OF LIFE AND ECONOMIC BURDEN

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OBJECTIVES: The purpose of this study was to assess health-related quality of life (HRQoL) and economic burden among outpatients with major depressive disorder (MDD) in regards to achieving remission. **METHODS:** This was a nationwide cross-sectional study. A total of 811 MDD patients over 18 years old were enrolled and each patient was allotted to one of three groups (1: 1: 1 ratio) as follow; new visit group (n=287), remitted group (n=235), and non-remitted group (n=289). The 17-item Hamilton Depression Rating Scale (HAM-D) was used to assign patients to either remitted or non-remitted group. HRQoL was assessed with EuroQol 5D (EQ-5D index score), EuroQol Visual Analog Scale (EQ-VAS), and Quality of life Enjoyment and Satisfaction Questionnaire Short Form (Q-LES-Q-SF). To investigate the economic burden of MDD patients, the total monthly costs (USD) were evaluated by sum of direct medical costs, direct non-medical costs (transportation and supplementary therapy), and indirect costs collected via patients interview. Indirect costs were measured by absenteeism and presenteeism utilizing the Korean version of World Health Organization Health and Work Performance Questionnaire (HPQ). **RESULTS:** Non-remitted group showed statistically significant impairment of HRQoL as revealed by the results of EQ-5D index score, EQ-VAS, and Q-LES-Q-SF compared to remitted group (0.57±0.23 vs. 0.77±0.10, 50.9±20.34 vs. 72.5±16.59, 0.41±0.14 vs. 0.58±0.16, respectively, p<0.0001). Regarding direct medical costs, the non-remitted group incurred the highest costs compared to other groups (p<0.0286). As of the indirect costs, remitted group demonstrated significant improvement in productivity when compared with other groups (p<0.0001). Total monthly costs were the highest in non-remitted group (1187±857.8) compared to remitted group (766±684.5) and new visit group (1063±773.1), (p<0.0001). **CONCLUSIONS:** Non-remitted MDD patients suffer from both lower HRQoL and higher economic burden compared with remitted group and new visit group. These results suggest the importance of achieving remission in Korean MDD patients.

PMH30

PREVALENCE AND PREDICTORS OF CLINICALLY UNDIAGNOSED COGNITIVE IMPAIRMENT AMONG OLDER RESIDENTS OF NURSING HOMES IN ASSOCIATION WITH HRQOL

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OBJECTIVES: To determine the prevalence and predictors of cognitive impairment among older residents of nursing homes in the state of Penang, Malaysia. **METHODS:** This multi-centred cross-sectional study was conducted in two phases over a six-month period at four non-governmental nursing facilities in Penang, Malaysia. Older residents (≥65 years old) who were taking at least one medication and had not been previously diagnosed with dementia were included. Demographic and clinical data were collected through direct interviews and the review of medical records. Cognitive screening was performed using the Mini-Cog at baseline. Health Related Quality of Life (HRQOL) was assessed at baseline and after a three-month interval using the EuroQol (EQ-5D) and EQ Visual Analogue Scale (VAS). **RESULTS:** The study included 211 residents with mean (SD) age of 77.7 (7.0) years and majority female residents, 128 (60.7%). Mini-Cog identified 129 (61%) residents with cognitive impairment. The three most common co-morbidities among the sample population were hypertension (71.1%), diabetes mellitus (27.1%) and cerebral vascular disease (12.3%). Logistic regression analysis shown that longer formal education of more than six years (OR = 2.81, p = 0.007, 95% CI [0.167-0.757]) and inability to self-administer medications (OR = 3.29, p < 0.001, 95% CI [0.156-0.594]) significantly predicted cognitive impairment based on Mini-Cog score ≤ 2. However, Mini-Cog was not significantly associated with changes in HRQOL at three months follow-up. **CONCLUSIONS:** We found a high prevalence of possible cognitive impairment among nursing home residence who had not been previously diagnosed, especially those who were unable to self-administer their medications. The length of formal education can be deceptive. Therefore, more vigilant screening should be performed for early detection and proper intervention of dementia although HRQOL is not affected by poor scoring in Mini-Cog.

MENTAL HEALTH – Health Care Use & Policy Studies

PMH32

PATTERN OF ANTIDEPRESSANT UTILIZATION AND COST IN IRAN FROM 2007-2011 IN COMPARISON TO EUROPEAN AND EAST ASIAN COUNTRIES AND LITERATURE REVIEW

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OBJECTIVES: To assess the prescribing and usage pattern of antidepressant medications and the impact of their cost from 2007 to 2011 in Iran and to compare the results to other countries. **METHODS:** A cross-sectional study was carried out on physicians' prescription data based on the claims that the pharmacies submitted electronically to the insurers during 5 years from 2007 to 2011. Data related to dispensing of antidepressant were obtained from the official databank of national regulatory authority. Drugs were classified according to the Anatomic Therapeutic

Chemical (ATC-2012edition) System. A systematic approach was also used to compare national results of the current study to similar results of other countries. **RESULTS:** More than 425 million prescriptions were reviewed. The total price of antidepressant prescription and dispensation was about 40 million and 210 million US\$ respectively. The most frequently prescribed medicines were nortriptyline, fluoxetine, and citalopram, which were accounted for 63% of all prescriptions. 87 articles were retrieved from various databases and other sources after excluding the duplicated articles. 17 articles were screened by titles and abstracts. After excluding the non relevant studies, there were 6 articles remained which were eligible for full text assessment. **CONCLUSIONS:** In compliance with the global trend, there was a growing tendency obviously observed towards prescribing SSRIs in Iran. In the face of rising burden of depression, on the one hand and the rising cost of medication and lack of funding resources on the other hand, we need to adopt strategies for promoting rational antidepressant medications use. These finding has important value for priority setting in planning and implementation of strategies for promoting rational drug use.

PMH33

OUTPATIENT TREATMENT OF ADOLESCENTS WITH ANTIDEPRESSANTS IN JAPAN

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OBJECTIVES: To examine antidepressant prescription patterns in Japanese children and adolescents. **METHODS:** We conducted a cross-sectional survey during October 2013 on outpatients, aged 19 or less, in 34 private mental clinics. Patients who were prescribed at least one antidepressant were analyzed in this report. Data on gender, age, principal psychiatric diagnosis (based on ICD-10), and types and doses of psychotropic drugs were extracted. **RESULTS:** The samples consisted of 137 males and 170 females. The average age (standard deviation) was 16.2 years (2.5). The mean length of psychiatric treatment was 23.6 months (23.3). The most frequent diagnostic category was neurotic disorders (F4; n=113), followed by mood disorders (F3; n=73), disorders of psychological development (F8; n=67), behavioral and emotional disorders (F9; n=22), schizophrenic spectrum disorders (F2; n=18), and other diagnoses (n=14). Among the 19 antidepressants available in Japan, the prescription rate of fluvoxamine (42.3%; n=130) was the highest, followed by sertraline (17.6%), duloxetine (10.4%), escitalopram (9.8%), trazodone (6.5%), and paroxetine (5.5%). Tricyclic or tetracyclic antidepressants (TCAs) were prescribed in 35 patients (11.4%). Two or more antidepressants were prescribed concurrently in 27 (8.8%) of the 307 patients. Anxiolytics/hypnotics were concurrently prescribed in 126 (41.0%). Mood stabilizers were co-prescribed in 35 (11.4%). Antipsychotics were concurrently prescribed in 134 (43.6%), with a median dose of 100mg/d chlorpromazine equivalent. **CONCLUSIONS:** In Japan, although augmentation of antidepressant treatment seemed relatively popular with antipsychotics in adolescent patients, antipsychotic doses might be relatively low.

PMH34

EVALUATION OF FACTORS AFFECTING SALES OF PRESCRIPTION

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OBJECTIVES: Many factors including patient, physician, medicine promotion and price affect prescribing of a medicine. The present study is aimed at showing the parameters that affect prescription writing and determine the effect of each of them on prescription process in Iran. **METHODS:** In order to investigate the effect of price, advertisement, gender, and age on the sales and prescribing process of three medicines, namely fluvoxamine, clopidogrel and latanoprost, pooling data method in econometrics (Panel data) was used. **RESULTS:** We found that advertisement and medicine insurance coverage had significant positive effects on prescription of all three medicines whilst negative relationship were seen between increasing price and the frequency of prescription of a medicine. Besides, we found out that advertisement has a direct effect on raising the demand and prescription of the medicines. **CONCLUSIONS:** Pharmaceutical companies need special attention to the index of physicians like age and sex in planning for sales and marketing of its products.

PMH35

PUBLIC BELIEFS AND ATTITUDES ABOUT SCHIZOPHRENIA, MAJOR DEPRESSION AND PSYCHOTROPIC MEDICATION IN TUNISIA

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OBJECTIVES: Stigmatization associated with mental illnesses could prevent schizophrenic and people with major depression to access to health care. Stigma often varies depending on social contexts. A survey in this subject was conducted first in Germany, then in France and finally in Tunisia. The objective of current study is to describe public beliefs and attitudes about schizophrenia, major depression and psychotropic drugs in Tunisia. **METHODS:** Three questionnaires were administered face-to-face to a representative sample of 1038 Tunisian people. 415 persons answered a questionnaire on schizophrenia, 418 on major depression and 205 about psychotropic drugs. They were asked to address a validated questionnaire. **RESULTS:** All 1038 questionnaires were fully completed. 38.8% (resp. 26.8%) of people reported being not comfortable in presence of a schizophrenic patient (resp. major depression), while 33.7% (resp. 58.1%) reported they did. More than 89.9% (resp. 90.2%) felt the need to help people suffering from schizophrenia (resp. major depression), although 58.6% (resp. 43.3%) think that such patients are strange, and 29.6% (resp. 16.0%) think they are dangerous. 47.81% agree with the fact that psychotropic treatment helps people to better support the concerns